



**Sixth Bayesian, Fiducial, and Frequentist (BFF6)
Conference on Model Uncertainty
April 28, 2019 – May 1, 2019**

SPEAKER TITLES/ABSTRACT

Alisa Bokulich
Boston University

“Models as Tools not Mirrors: Crossover Themes from the Philosophy of Science”

In this talk I draw out some of the philosophical implications of understanding models as targeted tools, rather than mirrors of nature. In particular, I want to highlight a number of potential crossover themes from the philosophy of science, relevant to thinking about model uncertainty. The first theme relates to model evaluation: understanding models as tools suggests that models should not be evaluated as "true" but rather as "adequate for particular purposes." The second theme directs our attention to the importance of the underlying conceptual model, and the representational choices made when conceptualizing the phenomenon in the world to be investigated or explained. The third theme examines reduced complexity modeling and argues that more is not always better. Finally, a fourth theme defends model pluralism and a division of cognitive labor among models. Although these points will be briefly illustrated with examples from across the sciences, my focus will be on the proverbial forest, and the hope is that these crossover themes will facilitate building further bridges between the philosophy of science and MUMS literatures.